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EXAMINER

NGUYEN, DUSTIN

ART UNIT

PAPER NUMBER

2154

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/923,924	Applicant(s) BALDONADO ET AL.	
	Examiner Dustin Nguyen	Art Unit 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,23-26,30 and 31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10,23-26,30 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>03/23/07, 04/23/07, 06/08/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-10 and 23-32 are presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-10 and 23-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following terms lack antecedent basis:

I. the plurality of performance scores - claim 1

B. The claim language in the following claims is not clearly explained:

I. As per claim 27, the limitation of "potential percent improvement" is being considered as indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 7-10, 23-26, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahuja et al. [US Patent No 6,981,055] in view of Sistanizadeh et al. [US Patent No 6,963,575].

5. As per claim 1, Ahuja discloses a method of routing data flow traversing one or more routers in an internetwork [i.e. core or edge routers] [604, Figure 18; 704, Figure 19; col 18, lines 60-67; and col 19, lines 32-35], wherein the one or more routers are coupled to a plurality of service provider access links [Figure 17; and col 17, lines 40-62], the method comprising:

determining a prefix for the data flow [i.e. determine path selection for each prefix] [col 1, lines 50-52; and col 19, lines 5-8];

each of the plurality of performance scores indicating performance of a route from a router of the one or more routers to the prefix via a distinct service provider access link from the plurality of service provider access links [i.e. routing table] [Figures 9, 11-14; col 12, lines 49-60; and col 13, lines 1-30];

detecting a current service provider access link for the prefix, the current service provider access link corresponding to a current route to the prefix specified by a routing protocol, the current service provider access link having a performance score from the plurality of service provider access links [i.e. start routing table or OldValue] [col 15, lines 2-5; and col 15, lines 29-col 16, lines 14]; and

selecting a new service provider access link from the plurality of service provider access links for routing the data flow to the prefix [i.e. new routing table or NewValue] [col 14, lines

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51-col 15, lines 15; and col 16, lines 7-14], wherein the new server provider access link has a performance score from the plurality of performance scores superior to the performance score for the current service provider access link [i.e. finding superior combinations of routes] [col 3, lines 1-7; and col 7, lines 6-13].

Ahuja does not specifically disclose wherein the prefix corresponds to an application selectable from a plurality of applications; and calculating a plurality of application-specific performance scores for the plurality of service provider access links.

Sistanizadeh discloses wherein the prefix corresponds to an application selectable from a plurality of applications [i.e. voice, data, video, multimedia] [col 2, lines 16-23 and lines 49-54; and col 18, lines 25-42], and calculating a plurality of application-specific performance scores for the plurality of service provider access links [i.e. depend on specific application] [col 18, lines 25-59; and col 19, lines 57-col 20, lines 33].

It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Ahuja and Sistanizadeh because the teaching of Sistanizadeh on specific application would enable to improve high-capacity networking and allow customers to obtain necessary bandwidth and other quality of service features on demand [Sistanizadeh, col 2, lines 13-23].

6. As per claim 2, Ahuja discloses wherein the plurality of performance scores is at least partially dependent upon delay measurements across the plurality of service provider access links [i.e. latency] [col 6, lines 13-34].

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7. As per claim 3, Ahuja discloses wherein the plurality of performance scores is at least partially dependent upon jitter measurements across the plurality of service provider access links [i.e. network condition or changes in physical medium] [col 8, lines 10-15; and col 14, lines 59-62].

8. As per claim 4, Ahuja discloses wherein the plurality of performance measurement scores is at least partially dependent upon loss measurements across the plurality of service provider access links [i.e. packet loss] [col 3, lines 12-20].

9. As per claim 5, Ahuja discloses wherein each of the plurality of performance scores comprises a scalar value [i.e. cost function] [col 14, lines 7-49].

10. As per claim 7, Ahuja does not specifically disclose wherein the plurality of performance scores is customized for video traffic. Sistanizadeh discloses wherein the plurality of performance scores is customized for video traffic [i.e. time-sensitive IP service supports voice and video applications] [col 12, lines 11-15; and col 18, lines 25-43]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Ahuja and Sistanizadeh because the teaching of Sistanizadeh on specific application would enable to improve high-capacity networking and allow customers to obtain necessary bandwidth and other quality of service features on demand [Sistanizadeh, col 2, lines 13-23].

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11. As per claim 8, Ahuja discloses wherein the plurality of performance scores is customized for VoIP traffic [col 5, lines 22-25].
12. As per claim 9, Ahuja discloses wherein the plurality of performance scores is at least partially dependent upon interface load measurements [i.e. balancing load] [col 13, lines 1-20].
13. As per claim 10, Ahuja discloses wherein the plurality of performance scores is at least partially dependent upon user configurable weights [col 9, lines 7-19].
14. As per claim 23, Ahuja discloses transmitting the selected new service provider access link to the one or more routers [i.e. communicate] [col 3, lines 36-40].
15. As per claim 24, Ahuja discloses wherein the selected new service provider access link is transmitted using a Border Gateway Protocol update message [col 1, lines 63-67].
16. As per claim 25, Ahuja discloses wherein selecting a new service provider access link comprises comparing a best route to a default BGP route [i.e. finding an optimal route] [Abstract; and col 2, lines 16-18].
17. As per claim 26, it is rejected for similar reasons as stated above in claims 1, 7 and 8.

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18. As per claim 30, Ahuja discloses wherein selecting a new service provider access link depends on a difference between a performance score of the new service provider access link and a performance score of the current service provider access link [col 16, lines 7-14].

19. As per claim 31, Ahuja discloses assessing a penalty to a performance score for at least one of the current service provider access link and the new service provider access link [col 2, lines 14-18].

20. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahuja et al. [US Patent No 6,981,055], in view of Sistanezadeh et al. [US Patent No 6,963,575], and further in view of Gossett Dalton, Jr. et al. [US Patent No 6,426,955].

21. As per claim 6, Ahuja and Sistanezadeh do not specifically disclose wherein the plurality of performance scores is customized for HTTP traffic. Gossett Dalton discloses wherein the plurality of performance scores is customized for HTTP traffic [col 9, lines 39-51]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Ahuja, Sistanezadeh and Gossett Dalton because Gossett Dalton's teaching of different traffic types would allow to expand the capability of the system to improve performance.

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22. Claims 27-29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahuja et al. [US Patent No 6,981,055] in view of Sistanizadeh et al. [US Patent No 6,963,575], and further in view of Gaddis et al. [US Patent Application No 2005/0201302].

23. As per claim 27, Ahuja discloses the invention as claimed including a method for routing from a source node to a group of destination nodes having a common prefix comprising:

generating a plurality of performance scores for a plurality of routes from the source node to the group of destination nodes [i.e. measure performance of paths and types of traffic] [col 3, lines 12-20; col 5, lines 5-14 and lines 23-26; and col 12, lines 4-7], each performance score corresponding to an access link from one or more access links [i.e. routing table] [Figures 9, 11-14; col 12, lines 49-60; and col 13, lines 1-30];

determining a superior performance score from the plurality of performance scores [i.e. finding superior combinations of routes] [col 3, lines 1-7; and col 7, lines 6-13].

Ahuja does not specifically disclose a implementing a route update request according to a priority queue, wherein the route update request corresponds to the superior performance score, further wherein the priority queue prioritizes received route update requests according to urgency, and configuring a router to select an access link corresponding to the route update request. Sistanizadeh discloses a implementing a route update request according to a priority queue [i.e. assign different priority levels to these different classes] [col 6, lines 42-47; and col 18, lines 43-58], wherein the route update request corresponds to the superior performance score [i.e. best path for routing or best cost parameter] [col 8, lines 26-32; and col 27, lines 50-53], the priority queue prioritizes received route update requests according to urgency [i.e. time

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critical traffic] [col 18, lines 49-62], and configuring a router to select an access link corresponding to the route update request [i.e. select the best path for each communication] [col 11, lines 18-23].

Ahuja and Sistanizadeh do not specifically disclose a rank of the update request for a prefix in the priority queue is dependent on a potential percent improvement of a performance score resulting from moving the prefix from its current route to a pending winner route.

Gaddis discloses

a rank of the update request for a prefix in the priority queue is dependent on a potential percent improvement of a performance score resulting from moving the prefix from its current route to a pending winner route [i.e. pending] [paragraphs 0070, 0118, 0176 and 0177].

It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Ahuja, Sistanizabeh and Gaddis because the teaching of Gaddis would enable dynamically determining regional address locations for best exit routing based upon route deaggregation and route selection preferencing [Gaddis, paragraph 0003].

24. As per claim 28, Ahuja discloses transmitting data related to a route containing the selected access link to the one or more access links [i.e. communicate] [col 3, lines 36-40].

25. As per claim 29, Ahuja discloses wherein the data comprises network layer reachability information [col 1, lines 30-41].

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26. As per claim 32, it is rejected for similar reasons as stated above in claim 27.

Furthermore, Ahuja does not specifically disclose transmitting a routing change corresponding to the route update request to one or more routers along the routes to route data along an access link. Sistanizadeh discloses transmitting a routing change corresponding to the route update request to one or more routers along the routes to route data along an access link [i.e. notify neighboring switches] [col 15, lines 45-51; and col 24, lines 38-47]. Ahuja and Sistanizadeh do not specifically disclose wherein a performance score from the plurality of performance scores is determined by unpacking the group into component prefixes and generating performance scores for each of the component prefixes in the event a change in a performance score for the group above a threshold level is determined. Gaddis discloses wherein a performance score from the plurality of performance scores is determined by unpacking the group into component prefixes and generating performance scores for each of the component prefixes in the event a change in a performance score for the group above a threshold level is determined [i.e. above a certain threshold] [paragraphs 0118, 0147, 0150, 0156 and 0161]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Ahuja, Sistanizadeh and Gaddis because the teaching of Gaddis on threshold percentage would enable dynamically determining regional address locations for best exit routing based upon route deaggregation and route selection preferencing [Gaddis, paragraph 0003].

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27. Applicant's arguments with respect to claims 1-10, 23-26, 30 and 31 have been considered but are moot in view of the new ground(s) of rejection.

28. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 U.S.C 133, M.P.E.P 710.02, 710.02(b)).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dustin Nguyen whose telephone number is (571) 272-3971. The examiner can normally be reached on flex schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dustin Nguyen
Examiner
Art Unit 2154

